# USE OF INFORMATION TECHNOLOGY TO ENHANCE THE COMPETITIVENESS OF THE RUBBER PRODUCTS MANUFACTURING INDUSTRY IN SRI LANKA

By

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## DECLARATION

"I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any University to the best of my knowledge and belief it does not contain any material previously published, written or orally communicated by another person except where due reference is made in the text."

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## (VIII) LIST OF ABBREVIATIONS

| | | |
|---|---|---|
| **ANOVA** | - | Analysis of Variance |
| **BOI** | - | Board of Investment |
| **CAD-CAM** | - | Computer Aided Design/Computer Aided Manufacture |
| **CNCI** | - | Ceylon National Chamber of Industries |
| **CEO** | - | Chief Executive Officer |
| **CRP** | - | Cost Ratio Productivity |
| **EDB** | - | Export Development Board |
| **FDI** | - | Foreign Direct Investment |
| **GDP** | - | Gross Domestic Product |
| **ITI** | - | Industrial Technology Institute |
| **IT** | - | Information Technology |
| **LAN** | - | Local Area Network |
| **LP** | - | Labour Productivity |
| **MOT** | - | Management of Technology |
| **NIC** | - | Newly Industrialized Country |
| **NR** | - | Natural Rubber |
| **SR** | - | Synthetic Rubber |
| **SAPTA** | - | South Asian Preferential Trade Agreement |
| **SLAMERP** | - | Sri Lanka Association of Manufacturers and Exporters of Rubber Products |
| **UNIDO** | - | United Nations Industrial Development Organization |
| **USAID** | - | United Sates Agency for International Development |
| **WAN** | - | Wide Area Network |
| **TQM** | - | Total Quality Management |
| **ISO** | - | International Organization for Standardization |
| **QA System** | - | Quality Assurance System |
| **MB** | - | Mega Byte |

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MBA-MOT programme a unique hybrid of management and technology, fulfills today's needs of regaining Sri Lanka.

## (X) ABSTRACT

Rubber has occupied a significant position in the economy of Sri Lanka for a longtime. Raw rubber earned valuable foreign exchange in the past, while in the recent times the value added rubber products have overtaken the export earnings from raw rubber. Today, the local value addition to rubber is done at a considerably higher level, converting over 65% of the raw rubber, and over 20% of raw rubber is exported as 'crepe rubber', which is also marketed as a product, called "Lankaprene".

Globalization has opened up boundaries, permitting countries to extend business to the world, thus creating a competition. Global rubber industry grows steadily and the local rubber industrialist have now an opportunity to be 'global', by competing with the rest of the world. At present Sri Lanka's share in the global rubber products market is as low as 0.25%, if increased to 1%, would yield a turnover of LKR 140 billion creating a sizable direct employment. This industry is now declared as a 'Thrust Industry" having identified the potential and the ability to enhance competitiveness.

Today, the Internet-era, information technology is advancing faster than other technologies, and the cost is falling rapidly. Sri Lanka's rubber products manufacturing industry compares well with global players with respect to availability of raw materials, technologies, manpower etc, but could be identified as less sophisticated and automated which can only be achieved with the use of information technology.

In this research an attempt has been made to study the level of information technology used in the rubber products industry in Sri Lanka and how it has influenced the competitiveness. The researcher used Michael Porter's 'Value Chain Model' and surveyed how each value chain activity has been improved by the use of information technology appropriately, and the effect of those improvements on the final productivity which is considered as an indicator of competitiveness.

It was hypothesized that, the Sri Lanka's rubber product industry productivity is positively related to the appropriate use of information technology in the value chain activities. The study was carried out using a questionnaire developed to measure the level of information technology used in value chain activities and the productivity resulted. Twelve major rubber product-manufacturing companies were sampled covering over 90% of the population.

The hypothesis was well supported by the finding showing a very strong positive correlation between the productivity and the appropriate use of information technology.

This research reveals that the information technology could be used in value chain activities, very successfully achieving productivity in terms of cost leadership and product differentiation, which could be used as strong weapons to combat the global competition.